

The densities of methane liquid and gas in equilibrium along with the vapor-pressure line are given in the table below. Estimate the density and volume of methane at its critical point of  $-116.7^{\circ}\text{F}$ .

T	$\rho_L$	$\rho_v$	$\rho_{avg}$
-253	26.17	0.1443	13.15715
-235	25.25	0.2747	12.76235
-217	24.28	0.4766	12.3783
-199	23.18	0.7744	11.9772
-181	21.89	1.202	11.546
-163	20.48	1.81	11.145
-116.7	10.11601	10.11601	10.11601

$\rho_c$	10.11601
$V_c$	1.581651

